

REMARKS

Claims remaining in the present patent application are numbered 1-24. Claims 1, 10, and 16 have been amended. The rejections and comments of the Examiner set forth in the Office Action dated December 24, 2004 have been carefully considered by the Applicant. Applicant respectfully requests the Examiner to consider and allow the remaining claims.

35 U.S.C. §102 Rejection

The present Office Action rejected Claims 1-4, 8, 16-19, and 23 under 35 U.S.C. 102(e) as being anticipated by Zinky et al. (U.S. Patent No. 6,691,148 B1). Applicant has reviewed the above cited reference and respectfully submits that the present invention as recited in Claims 1-4, 8, 16-19, and 23, is neither anticipated nor rendered obvious by the Zinky et al. reference.

Independent Claims 1 and 16

Applicants respectfully point out that independent Claim 1 and 16 each recite that the present invention includes a communication network for servicing at least one application environment in which service level objectives that are dynamically changeable are satisfied. In particular, independent Claim 1 recites that the present invention includes, in part:

b) determining whether a plurality of service level objectives are satisfied, each of said plurality of service level objectives associated with one of said plurality of components, wherein each of said plurality of service level objectives are dynamically changeable without predefinition . . . (Emphasis Added)

Additionally, independent Claim 16 recites that the present invention includes, includes, in part:

a dynamic resource manager residing coupled to said application environment for optimizing the number of computational resources from said plurality of computational resources in each of said plurality of components in order to satisfy quality of service objectives for said application, wherein said quality of service objectives are dynamically changeable without predefinition. . . (Emphasis Added)

The present invention pertains to a method and system for enabling resource sharing in a communication network having a plurality of application environments. In particular, independent Claims 1 and 16 each recite that the number of computational resources in each of a plurality of components of an application environment are optimized by satisfying service level objectives or quality of service objectives for each component. Furthermore, independent Claims 1 and 16 recite that the service level objectives or quality of service objectives are dynamically changeable.

Applicants respectfully note that the prior art reference, Zinky et al., does not teach nor suggest the present method or system that comprises, in particular, the satisfaction of service level objectives or quality of service objectives that are dynamically changeable, as claimed in independent Claims 1 and 16 of the present invention.

In contrast to independent Claims 1 and 16 of the present invention, the Zinky et al. reference, discloses a framework for providing quality of service requirements in a distributed object-oriented computer system. In particular, the Zinky et al. reference discloses a contract that stores levels of quality of service offered by a network, determines a quality of service required by the object, and evaluates the contract to select a level of quality of service that corresponds to a current quality and adjusts the current quality of service to obtain the required quality of service as needed.

More specifically, the Zinky et al. reference is capable of requesting changes to the allocation of system resources or to adapt to changing resource availability according to the contract during a "transition" that causes a contract to change state from one region to another. However, the allocation of system resources still is satisfied within predefined regions of QoS of the contract.

That is, a QoS may change from one region to another region, but that change is predefined within the context of the distributed object-oriented computer system.

For example, in Figure 5, the Zinky et al. reference teaches that a QoS value and its corresponding region can change through setting an expectation code. More specifically, depending on whether the expectation code is 1, 2, or 4, the corresponding negotiated region is either the "low cost requested," or normal requested," or "high availability requested" region, as predefined. As such, the Zinky et al. reference teaches away from the present invention in that the negotiated region is predefined within a certain acceptable range.

The present invention, on the other hand, claims a communication network that comprises a plurality of computation resources that service at least one application environment. Distinctively, the number of computational resources are optimized in each of a plurality of components in order to satisfy a plurality of service level objectives or quality of service objects that are dynamically changeable, as recited in independent Claims 1 and 16, respectively. That is, embodiments of the present invention are able to satisfy service level objectives or quality of service objectives that can change without limit

and that are not predefined, as disclosed in independent Claims 1 and 16 of the present invention.

Thus, Applicant respectfully submits that the present invention as disclosed in independent Claims 1 and 16 is not anticipated by the Zinky et al. reference, and is in a condition for allowance. In addition, Applicant respectfully submits that Claims 2-9 which depend from independent Claim 1 are also in a condition for allowance as being dependent on an allowable base claim. Similarly, Applicant respectfully submits that Claims 17-24 which depend from independent Claim 16 are also in a condition for allowance as being dependent on an allowable base claim.

35 U.S.C. §103 Rejection

The present Office Action rejected Claims 5-7, and 20-22 under 35 U.S.C. 103(a) as being unpatentable over Zinky et al. Also, Claims 9-15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zinky et al. as applied to claim 1 above, and further in view of Friedrich et al. (U.S. Patent No. 6,003,079). Applicant has reviewed the above cited references and respectfully submits that the present invention as recited in Claims 5-7, 9-15, 20-22, and 24, is neither anticipated nor rendered obvious by

the Zinky et al. reference taken alone or in combination with the Friedrich et al. reference.

Independent Claim 10

Regarding Independent Claim 10, embodiments of the presently claimed invention disclose a method for enabling resource sharing in a communication network having a plurality of computational resources that support a plurality of application environments, as presently claimed. In particular, independent Claim 10 of the present invention recites, in part:

In a communication network having a plurality of computational resources for supporting a plurality of application environments, a method for enabling resource sharing, comprising:

a) receiving a first response-time metric from a first component in a plurality of components that form a first application environment in said plurality of application environments;

b) comparing said first response-time metric to a first service level objective associated with said first component, wherein said first service level objective is dynamically changeable without predefinition; and

c) optimizing the number of computational resources in said plurality of computational resources that are assigned to said first component in order to satisfy said first service level objective. (Emphasis Added)

The claimed embodiment of independent Claim 10 pertain to a method of enabling resource sharing. More particularly, the present invention as claimed compares a first response-time metric to a first service level

objective and optimizes a number of computational resources to satisfy the first service level objective. More particularly, independent Claim 10 recites that the first service level objective is dynamically changeable without predefinition.

For analogous reasons set forth above with respect to the 102 argument, Applicants respectfully note that the Zinky et al. reference does not teach nor suggest the present invention as claimed in which a service level objective that is dynamically changeable without predefinition is satisfied by optimizing the number of computational resources in a first component.

In addition, the Friedrich et al. reference fails to overcome the shortcomings of the Zinky et al. reference. In particular, the Friedrich et al. reference teaches a system and method for continuously measuring quality of service in a federated application environment. However, the Friedrich et al. reference does not teach the optimization of a number of computational resources assigned to a first component that supports a first application environment in order to satisfy a first service level objective that is dynamically changeable without predefinition, as recited in independent Claim 10. That is, the first service level objective is dynamically

changeable without limit and without following predefined parameters for defining the first service level objective.

Thus, Applicant respectfully submits that the Zinky et al. reference taken alone or in combination with the Friedrich et al. reference does not anticipate or render obvious the method of the present invention as recited in independent Claim 10. Accordingly, Applicant respectfully submits that independent Claim 10 overcomes the cited references, and as such Claims 12-15 which depend on independent Claim 10 are also in a condition for allowance as being dependent on an allowable base claim.

CONCLUSION

In light of the amendments and arguments presented herein, Applicants respectfully request reconsideration of the rejected Claims for allowance thereof.

Based on the arguments presented above, Applicants respectfully assert that Claims 1-24 overcome the rejections of record. Therefore, Applicant respectfully solicits allowance of these Claims.

The Examiner is invited to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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